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DRAWINGS ATTACHED

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(19)

(54) DEVICE FOR LOADING A SKIP ON TO A VEHICLE

(71) We, SOCIETE NOUVELLE DES BENNES SAPHEM, a Company organised and existing under the laws of France, of La Neuve-Lyre, Eure, France, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to a device permitting the loading of a skip or tank on to a vehicle.

The present invention provides a device for loading and unloading a skip or tank from a vehicle, comprising an L-shaped member having an upstanding arm for location adjacent the front of the skip or tank and having means at its upper end for attachment to the skip or tank, at least one slide articulated on the vehicle chassis at a position below the skip or tank and slidably receiving the other arm of the L-shaped member, a first jack device for moving the L-shaped member, and thereby the skip or tank, between forward and backward positions, at least one second jack acting on the said slide in such manner as to cause it to pivot about its point of articulation on the chassis, when the L-shaped member and skip or tank are in the backward position, whereby the upper end of the L-shaped member describes an arc of a circle, thereby loading or unloading the skip or tank onto or from the vehicle.

When the skip is loaded on the vehicle, the first jack device causes the L-shaped member to slide, at the same time carrying with it the skip which becomes locked in a fixed position on the slides, so that it is possible either to unload the skip from the vehicle by carrying out the operations in reverse, or to utilize the vehicle and skip like an ordinary tipping waggon.

Other characteristic features, advantages and particularities of the invention will further be brought out in the description which follows below, reference being made to the accompanying drawings which show, by way of indication and not in any limitative sense, one form of embodiment of the invention.

In the drawings:

Figs. 1 to 4 show diagrammatically a vehicle equipped with the device according to the invention, during the course of the various phases of unloading of a skip;

Figs. 5 and 6 show to a large scale the mechanical parts of the device, Fig. 5 being a view in elevation and Fig. 6 a view from above.

According to the drawings, on the chassis of the vehicle 1 are articulated two slides 2 adapted to receive slidably one arm of an L-shaped member 3. On each slide is articulated the piston of a jack 4 fixed to the chassis.

The sliding movement of the L-shaped member 3 in the slides 2 is effected by a second jack 5.

A hook 6 fixed to the upper end of the L-shaped member serves to hook on the skip 7.

The operation of this device is as follows:

It is assumed that the skip 7 is initially fixed on the chassis of the vehicle. The various parts of the mechanism then occupy the positions shown in Figs. 1, 5 and 6, and lugs 8 provided on the skip co-operate with studs 9 provided on the slides 2 in order to fix it on the slides.

In this position, operation of the jack 4 causes the vehicle to function as a tipping waggon. The slides 2 are in this case held by the lugs 8 against the bottom of the skip so that the skip and slides pivot about the horizontal axis of a roller 10 at the rear of the vehicle.

If it is desired to unload the skip on to the ground, the jack 5 is first put into operation, which has the effect of causing the L-shaped member 3 to slide carrying the skip with it, this latter taking up the position shown in Fig. 2, the lugs 8 being then disengaged from the studs 9.

The actuation of the jacks 4 now causes rotation of the slides about their point of articulation 2' on the chassis of the vehicle, the slides in their movement displacing the

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L-shaped member 3 which lifts th skip through the intermediary of the hook 6.

The tipping movement of the skip is facilitated by providing one or more rollers 10 at the rear of the vehicle chassis.

The rear portion of the skip is then supported on the ground; at the end of the tipping movement of the L-shaped member, the skip rests wholly on the ground, as shown in Fig. 4.

As soon as the rear of the skip rests on the ground, the tipping movement of the L-shaped member causes a displacement of the vehicle on the ground, so that the skip runs no risk of being damaged.

It will be noted that the sliding movement of the L-shaped member in the slides makes it possible to reduce the distance between the point of articulation 2' and the coupling hook, which limits the tipping of the skip during unloading or loading.

The angle between the arms of the L-shaped member 2 may be fixed or adjustable; in this latter case, adjustment is effected by an appropriate operating device.

It will of course be understood that the present invention has been described above purely by way of example, and modifications of detail can be made within the scope of the invention as defined in the appended claims.

WHAT WE CLAIM IS:—

1. A device for loading and unloading a skip or tank from a vehicle, comprising an L-shaped member having an upstanding arm for location adjacent the front of the skip or tank and having means at its upper end for attachment to the skip or tank, at least one slide articulated on the vehicle chassis at a position below the skip or tank and slidably receiving the other arm of the L-shaped member, a first jack device for moving the L-shaped member, and thereby the skip or tank, between forward and backward positions, at least one second jack acting on the said slide in such manner as t cause it to pivot about its point of articulation on the chassis, when the L-shaped member and skip or tank are in the backward position, whereby the upper end of the L-shaped member describes an arc of a circle, thereby loading or unloading the skip or tank onto or from the vehicle.

2. A device in accordance with Claim 1, in which the skip has means for engaging the or each slide when in the forward position so that on operation of the or each second jack when the skip is in the forward position, the or each slide is caused to pivot about a second point of articulation adjacent the rear of the vehicle, which thereby acts as a tipping vehicle.

3. A device in accordance with Claim 1, in which the angle between the arms of the L-shaped member is adjustable and is controlled by an appropriate actuating element.

4. A device in accordance with any one of the preceding claims, further comprising at least one roller fixed to the rear of the vehicle in order to facilitate displacement of the skip.

5. A device for loading and unloading a skip or tank on to or from a vehicle, substantially as hereinbefore described and as illustrated by the accompanying drawings.

PAGE WHITE & FARRER,
Chartered Patent Agents,
27 Chancery Lane,
London, WC2A 1NT.,
Agents for the Applicants.

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1327928 COMPLETE SPECIFICATION
2 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheet 1

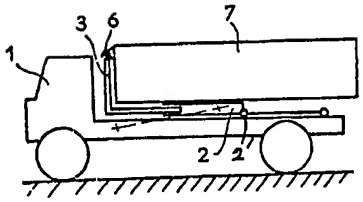

FIG. 1

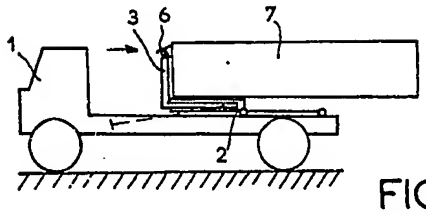

FIG. 2

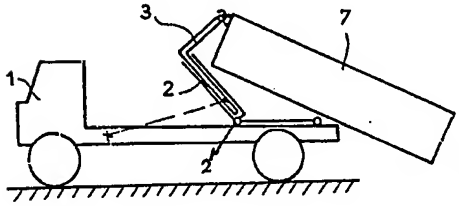

FIG. 3

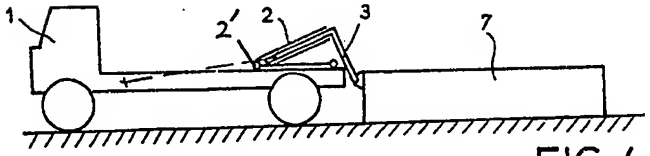

FIG. 4

1327928 COMPLETE SPECIFICATION
2 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
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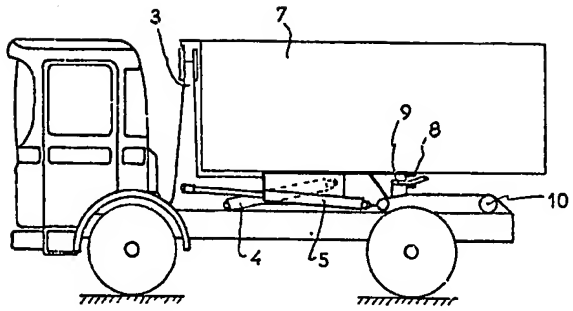

FIG. 5

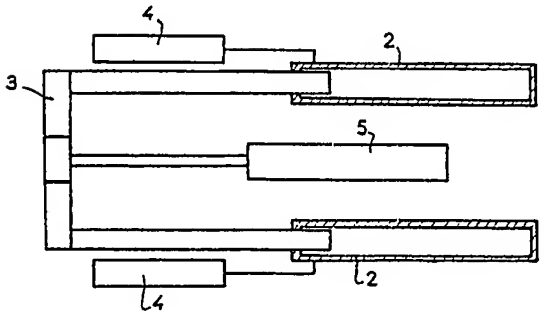

FIG. 6